

A Work Project presented as part of the requirements for the award of a Master Degree in
Management from Nova School of Business and Economics

**THE COMPETITIVE POSITION OF NOVA SCHOOL OF BUSINESS AND ECONOMICS
IN THE INTERNATIONAL PRE-EXPERIENCED MASTERS MARKET:
AN EVALUATION OF THE STATUS QUO AND THE FUTURE DEVELOPMENT**

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ABSTRACT

Purpose This study examines the competitive position of Nova School of Business and Economics in the international pre-experienced masters market, particularly with regard to its ability to attract international students.

Design/methodology/research approach Several analyses are performed. They are based on empirical data collected through a student survey, in-depth interviews with Nova's program managers and online data collection on multiple university websites. A computation of the volatility index of the industry, a comprehensive analysis of Nova's resource platform, and benchmarking with close competitors offer insights on the sustainability of Nova's competitive position.

Findings Nova is likely to sustain its solid competitive position in the near future despite the challenging market environment. Key strategic strengths such as its reputation, location or the CEMS program will allow Nova to keep up the strong student demand. On the other hand, several risks are identified that the school management should address to protect the school's long-term competitive advantage.

KEYWORDS Nova SBE, business school, sustainable competitive advantage, customer orientation.

1 | INTRODUCTION

NOVA SCHOOL OF BUSINESS AND ECONOMICS (henceforth, “Nova”) currently attracts a large number of international (i.e., non-Portuguese) students to the three master of science programs it offers in the fields of economics, finance and management. The school devised a business strategy to become a successful international player, and aims to further grow in terms of enrolled master students, with a specific focus on international students.¹

Academic internationalization is a widespread phenomenon in the higher education (henceforth, “HE”) market (Foster, Carver, 2018). Increasing market saturation (Pfeffer, Fong, 2004) and the high degree of competition are mainly responsible for mounting internationalization, leading to a “worldwide battle for excellence” (Hazelkorn, 2011).

Nova faces numerous competitors, all of them vying for the best international students and, one would surmise, capable of innovating and threatening Nova’s current competitive position. This leads to our research questions: *is Nova capable of sustaining its competitive position in the foreseeable future? Will it keep attracting talented international students to its three master programs? To put it negatively, is there a risk that the current momentum might be lost, entailing a withering international demand for Nova’s master courses?*

We answer these questions by performing several analyses. We examine Nova’s current position by looking at admission and enrollment data, as well as ranking and accreditation data. We also assess the sustainability of Nova’s position by dissecting Nova’s resource platform and its organizational capabilities. Particular focus is placed on checking whether the program managers are in tune with their customers’ (i.e., students’) needs and aspirations, as well as aware of their dislikes, bearing in mind that customer orientation is a critical factor of successful master programs. The analysis is based on empirical data collected from two sources: (i) a

¹ Statement of Nova’s program managers.

student survey and (ii) in-depth interviews with the Nova's program managers. In addition, benchmarking with close competitors is undertaken. In sum, these analyses yield an overall picture of Nova's competitive position and allow us to give evidenced-based recommendations to Nova's program managers.

The manuscript is organized as follows. After this introduction, a literature review states the theoretical background of our work. Afterwards, in section 3, we outline the methodology. Section 4 comprises the analysis, consisting of an assessment of Nova's current competitive position (section 4.1) and an analysis of the sustainability of this position (section 4.2). The final section wraps up with a summary of the findings and recommendations.

2 | THEORETICAL BACKGROUND

A useful starting point for understanding Nova's competitive position can be found in the literature. It confirms the relevance of the research question and offers insights that facilitate the evaluation of Nova's competitive position by highlighting several models that gauge the performance of higher education institutions.

2.1 | Economization of the *HE* sector

The question of the competitiveness and positioning of business schools needs to be answered against the background of the economization of the *HE* sector. The economization of research institutions, which harks back to the 1980s, has forced them to deal with economic questions and strategic positioning issues. The literature presents varied viewpoints on this subject.

Market-oriented view Several authors have adopted a market-oriented view, underscoring the importance of marketing aspects, such as brand positioning and reputation. Brandenburg (1983) emphasizes the need for strategic positioning of US business schools as a response to an increasingly competitive environment. Meanwhile, numerous authors describe the transformation of *HE* institutions into businesses that need to serve their "student-customers" (Pfeffer, Fong, 2004; Douglas, McClelland, Davies, 2007). Brown and Mazzarol (2009) find

that reputation is the major determinant of student value perception. According to Luque-Martínez and Del Barrio-Garía (2009), image is crucial for not-for-profit *HE* institutions in an era of restricted government support and increased competition, in order to secure financial resources. Pucciarelli and Kaplan (2016) conduct a SWOT analysis of the *HE* sector and identify three market-oriented core challenges that *HE* institutions need to address: first, the need to enhance prestige and market share; second, the need to embrace an entrepreneurial mindset; and lastly, the need to expand interactions and value co-creation with key stakeholders.

Traditional role of *HE* institutions Opponents of the market-oriented view criticize the superficiality of business school's reputation-seeking behavior, emphasizing instead the more traditional role of *HE* institutions. Pfeffer and Fong (2004) see a strong market orientation as a threat to the quality of business education and the image of business administration professions in general. They warn against the reduction of a business school's role to a pure placement service, as opposed to an education and research institution. Hence, they suggest that business schools should rediscover their roots as university departments instead of focusing on reputation (particularly based on rankings) only. The same viewpoint is voiced by Gioia und Garley (2002), who also emphasize the negative consequences of an overly strong focus on image and reputation, once again warning business schools against a loss of substantive quality.

2.2 | Common approaches to the evaluation of business schools

To the best of our knowledge, no specific models for the evaluation of the competitive position of a *HE* institution exist. However, several models that measure various dimensions of a *HE* institution's performance can be found in the existing research. The strategic management literature provides a multitude of models for the evaluation of corporate competitiveness which can be applied to the *HE* sector. Here we provide a brief summary of the most important models as they point out directions for this study's analysis and provide useful metrics for the evaluation of the competitive position of a *HE* institution.

Brown and Mazzarol (2009) examined factors driving student satisfaction and loyalty in *HE* settings using a service marketing model. The model is based on three influence variables: image, “hardware” (infrastructure and tangible service elements) and “software” (people and processes). The study found that image is the major antecedent of student satisfaction and loyalty, which is considered a particularly important finding for “newer, less prestigious universities seeking to compete in a more deregulated, market driven environment”.

Thomas (2007) provides a balanced scorecard model that enables business schools to develop a strategy based on performance measurement. The model measures three organizational performance categories by using a range of metrics: financial performance (profitability, financial surplus, level of endowment funding), operational performance (faculty quality, student quality, research quality, teaching quality, program efficiency, measures of market positioning) and organizational effectiveness (league table rankings, reputation, student satisfaction, employer satisfaction, accreditation).

University rankings (e.g., *Financial Times* ranking, *Eduniversal* ranking, *Times Higher Education* ranking) and accreditations (e.g., AACSB, EQUIS, AMBA) are also indicators of a *HE* institution’s competitive position. Several authors recognize that rankings play a major role for the majority of students when selecting a master program (see *inter alia* Hazelkorn, 2011 and Mazzarol, 2009). Lejeune and Vas (2014) note that business school accreditations are powerful legitimating instruments that enhances status and reputation, and thus competitive advantage, both domestically and globally. However, some critical voices question the credibility of rankings and accreditations. A number of authors have methodological concerns and criticize the one-dimensional focus on salary-based metrics, which neglect criteria that measure the quality of teaching (Gioia, Corley, 2002; Rubin, Dierdorff and Morgeson, 2012; Papi, 2016; Clermont, Dirksen, 2016).

Rubin and Morgeson (2013) suggest a rating model that assesses program quality through a comprehensive set of quality indicators and takes students’ individual preferences into account

as an alternative to conventional rankings. Bell and Taylor (2006) criticize accreditation as being based on an ideology of quality that leaves no room for alternative definitions of quality and leads to isomorphism.² Hence, a school's ranking position can be seen as an important measure of reputation, but the rankings' one-dimensionality suggests that they should not be used solely to determine competitive position.

Building on Rubin and Morgeson's (2013) rating model, the Business School Research Network (2016) has developed a more holistic model of stakeholder value. The model draws upon a more multifaceted set of variables that represent the interest of an institution's various stakeholders, which can be clustered into four groups: students, practitioners, communities, and scholars.

Based on the review of *HE*-specific performance evaluation models and metrics, the following factors are identified as the most important ones across studies and will therefore be included into the subsequent analysis: image and ranking, student satisfaction, quality of faculty, and degree of internationalization. These are the indicators cited most frequently in the literature.

Besides the models that specifically address the *HE* sector, the literature in strategic management provides general models dealing with competitive advantage and strategic positioning. Porter (2008) introduced the (well-known) "5 forces model" that enables firms to develop competitive strategies that exploit opportunities and neutralize threats within the industry they operate in. This model derives recommendations based on the analysis of external, industry-related factors, so that the results are usually applicable to all firms that operate in that industry. Since our research question focus predominantly on the competitive position of Nova relative to its peers, we apply a model that takes the specific characteristics of Nova, i.e., its strengths and weaknesses, into account.

² In plain words, to close similarity of institutions.

Barney (1995) developed a framework for investigating a firm's ability to gain sustainable competitive advantage, considering the internal differences among firms. The so-called "VRIO framework" is based on the assumption that a firm has a sustainable competitive advantage if it has resources that are valuable, rare, and inimitable and if the firm is organized to exploit its resources (see Table 1). Barney defines resources as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive and implement strategies that improve its efficiency and effectiveness". According to Barney, a resource is valuable if it exploits opportunities or neutralizes threats, it is rare if it is not possessed by a large number of firms, and it is inimitable if competitors face a cost disadvantage in imitating this resource. Barney states that numerous components determine if a firm is organized to exploit its resources. He mentions reporting structures, management control systems, and compensation qualities as examples.

TABLE 1: VRIO framework (Barney, 1995)

Is the resource...				Competitive Implication
Valuable?	Rare?	Inimitable?	Organization exploited?	
✗				Competitive disadvantage
✓	✗			Competitive parity
✓	✓	✗		Temporary competitive advantage
✓	✓	✓	✗	Unused competitive advantage
✓	✓	✓	✓	Sustainable competitive advantage

In this study, we use the VRIO framework to understand Nova's success factors with regard to the acquisition of international students and to evaluate the sustainability of its position within the international pre-experienced masters market.

3 | METHODOLOGY

To answer the research questions, data was collected using both qualitative and quantitative methods. A student survey yields the views of Nova's international students by uncovering the factors that applicants deem decisive when selecting Nova for their master degree, thus uncovering Nova's strengths and weaknesses. In-depths interviews with program managers that covered the same topics as the student survey were conducted in order to measure the degree of alignment between students and managers, based on the rationale that misalignment bodes ill for competitiveness.

Semi-structured one-on-one interviews were conducted with Nova's three program managers (see Appendix 1 for the interview guide). The interviewees are responsible for the three master programs currently offered by Nova, thus having a broad knowledge of their functioning, issues and successes. The interviews took place on October 9 and 10, 2018 and lasted 40 to 60 minutes. They were conducted face-to-face in each respondents' office. The interviews were audio recorded and transcribed verbatim afterwards. The questions about students, applicants, strengths, and weaknesses of the school were specific, while open-ended question versed topics such as Nova's strategy and mission.

An online questionnaire was distributed to international (i.e. non-Portuguese) master students enrolled at Nova (Appendix 2). The questionnaire was distributed through an anonymous link posted in relevant social media channels (Facebook, WhatsApp) and sent directly via email to students enrolled in the course "Strategy I". Additionally, it was made available on campus. A total number of 141 international students (23.2% of the current population) answered the questionnaire between September 17 and October 26, 2018. Of those respondents, 93 students (15.3% of the population) answered all questions. Four questions that are related to the student's satisfaction level were addressed solely to respondents that had already completed at least one semester of coursework. 58 respondents answered those four questions. The sample consists of

65 management students (64.4%), 27 finance students (27.7%) and 9 economics students (8.9%). Since the population consists of 52.5% management students, 39.3% finance students, and 8.3% economics students, management students are overrepresented in the sample, while finance students are underrepresented. The most represented country is Germany (41.9%), followed by Italy (12.9%) and France (6.5%). Since the international student body consists of 42.5% Germans, 17.9% Italians and 2.7% French, Italy is underrepresented, France is overrepresented, and the share of Germans almost equals the population.

4 | ANALYSIS AND FINDINGS

In the following, we first analyze Nova's current competitive position as a starting-point to then gauge its sustainability.

4.1 | Status quo: Nova's current competitive position

We evaluate Nova's current competitive position by analyzing historic student demand, i.e. the evolution of master students' application and enrollment data, as well as ranking and accreditation data in recent years. Overall, they depict a positive evolution: Nova was able to establish a position in the upper midfield of the international pre-experienced masters market.

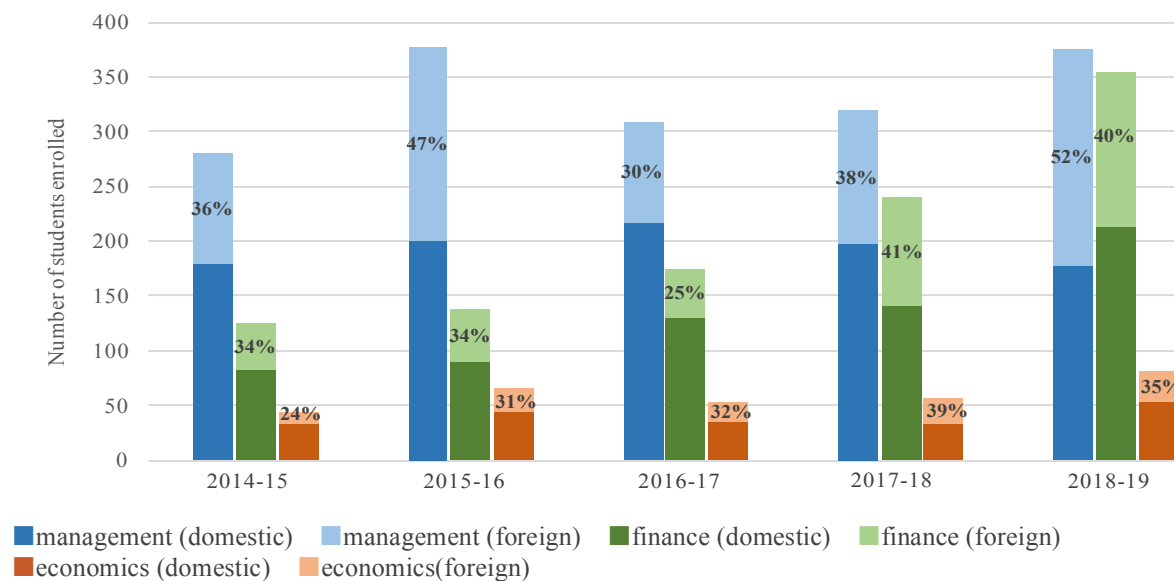
A positive trend in the number of applications as well as enrollments highlights Nova's increased popularity among students. This is particularly remarkable if one bears in mind that the school does not advertise its master programs to the degree that is commonly observed in the market.³ Altogether, this indicates a successful positioning within the market.

Figure 1 shows that the total number of students enrolled at Nova's three master programs increased by 16.9% CAGR⁴ over recent years, primarily driven by the growth in foreign students' enrollment (32.7% CAGR).³ In terms of individual programs, finance grew most significantly with a CAGR of 30.5%.

³ Statement of Nova's program managers.

⁴ CAGR stands for Compound Annual Growth Rate.

FIGURE 1: Number of enrollments 2014/15 – 2018/19 per program;⁵ share of foreign students



The share of international students in the academic year 2018/19 is 43.0%. Most international students are European (83.4%), with Germany (47.0%) and Italy (15.7%) being the most represented countries. The remaining 19% of non-European students is widely diversified, with Brazilians being the largest group (3.9%), followed by Americans (2.2%) and Chinese (2.2%). A share of 16.6% of non-European students is remarkable in view of Nova's present focus on the European market.⁶

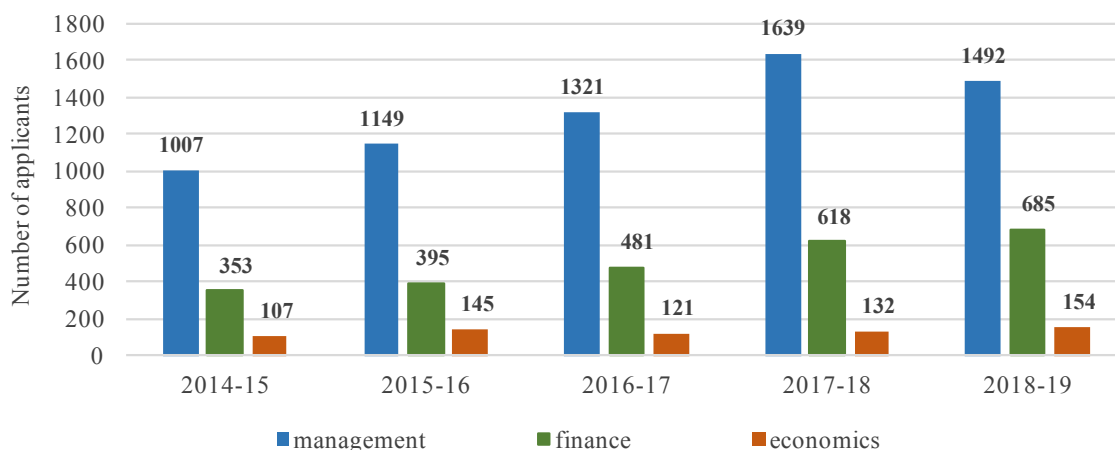
With a CAGR of 17.7%,⁷ the number of applicants has increased substantially over the last 5 years (see Figure 2). As a result, the student acceptance rate has *decreased* by 17.8%⁷ (see Appendix 3), implying that Nova was able to select its students from a larger pool of applicants and to be more selective in terms of the applicants' profiles. This may have led to an overall increase in the quality of its student body, which has positive implications for its reputation and competitive position.

⁵ The value for management in the academic year 2018/19 does not include the spring intake since this data is not yet available.

⁶ Statement of Nova's program managers.

⁷ Calculation based on the years 2014/15–2017/18 since data from the spring intake 2018/19 is not yet available.

FIGURE 2: Number of applicants 2014/15 – 2018/19 per program⁸



The rate of admitted students who do not enroll after having been accepted has also significantly decreased from 43.4% to 25.9% (see Appendix 3), while 75% of the current master students stated that Nova was their first choice.⁹ Again, this underscores Nova's positive recent evolution in terms of reputation and popularity.

Nova's current competitive position is also reflected in its recent performance in rankings and accreditations. In terms of rankings, Nova was able to establish itself in the upper midfield on a global scale (Appendix 4). Nova's master in finance is currently ranked twenty first in the *FT* ranking. Since its first participation in 2011, it has obtained an average rank of 20.5 and is among the top 43% of programs. With a standard deviation of 3.9, the master in finance has had a rather stable ranking position. It is also ranked in sixteenth place in the first edition of the *Times Higher Education* ranking (Times Higher Education, 2018). The master in management is currently ranked thirtieth in the *FT* ranking. With an average rank of 40.6 since the first participation in 2010, it is among the top 52% of programs. With a standard deviation of 16, the master in management ranking has been fairly volatile. It is ranked in twenty second place in the *Times Higher Education* ranking. The master in economics shows an excellent

⁸ The value for management in the academic year 2018–19 does not include the spring intake since this datum is not yet available.

⁹ Result of the student survey, see Appendix 2.

performance in the “*Eduniversal* Masters in Economics Western Europe” ranking. It is currently ranked third, which places it in the top 1%.¹⁰

Besides the ranking positions, accreditations are a strong indicator of the competitive performance of universities. Nova has the highest possible accreditation among business schools. It is accredited by the Association to Advance Collegiate Schools of Business (*AACSB*), the Association of MBAs (*AMBA*) and the European Quality Improvement System (*EQUIS*), thus holding the so-called “triple-crown” accreditation (mba.today, 2018). It also has been recognized with the highest accreditation by *Eduniversal*, the “5 Palms” (*Eduniversal*, 2018).

In conclusion, the analysis shows that Nova was able to improve its competitive position in recent years, even though it faced intense competition.

4.2 | The sustainability of Nova’s competitive position

The previous analysis shows that Nova was able to improve its competitive position in the international pre-experienced masters market in recent years. The school currently holds a position in the upper midfield of the international pre-experienced masters market. Sustainability will now be examined through the analysis of the external market forces that affect Nova’s position (section 4.2.1), as well as key resources (section 4.2.2) and organizational capabilities (section 4.2.3) that determine the school’s long-term competitive position.

4.2.1 | Nova’s competitive environment: the international pre-experienced masters market

The degree of competition in the international pre-experienced masters market is crucial for evaluating the sustainability of Nova’s competitive position. We approach the analysis of the degree of competition by computing a volatility index of the industry, i.e., the international pre-

¹⁰ Due to data unavailability, a trend for economics could not be calculated.

experienced masters market (see Box 1). The computation is based on *FT* and *Eduniversal* ranking data since the variation in ranking positions (or lack thereof) can be seen as a proxy for the level of competition in the market and rankings “are perceived and used to determine the status of individual institutions” (Hazelkorn, 2011).

Box 1: Volatility index

Definition The volatility index equals the *ratio* of the *actual* volatility observed in the market and the *maximum* volatility that could have been attained in that same market over the same time period.

Maximum volatility Maximum volatility is reached when *all* programs active in a given year (referred to as the *initial* year) drop out of the ranking in a subsequent year (referred to as the *final* year), to be replaced by other programs, which were not ranked in the initial year. In this case, the index’s value equals $2 \times (1 + 2 + \dots + n)$, where n denotes the number of top-ranked programs in both the initial and final years considered for the purpose of computing the index.

Actual volatility Actual volatility equals the sum of the absolute value of the observed variation in the ranking of the n top-ranked programs in the initial and final years (including those that have entered anew the final-year ranking as well as those that, while present in the initial year ranking, have subsequently exited). Actual volatility equals zero if and only if all n top-ranked programs considered for the purpose of computing the volatility index were to maintain their ranking position unchanged between the initial and final year.

Range The index’s range is $[0,1]$ by construction. By definition, it can be interpreted as a percentage.

A low value of the index indicates that the market is fairly stable, with programs maintaining their relative position over time. On the contrary, a high value of the index suggests that the market is unstable, i.e., that many programs markedly change their position over time. Thus, volatility is expected to be positively correlated with the level of competition prevailing in the market.¹¹

¹¹ It is conceivable that all or most programs could maintain their relative position even when competition among them is intense. This would be the case if while acutely competing, programs were to improve (or regress) equiproportionately, a very unlikely outcome in a highly competitive market.

The *FT* rankings are only available for two of the three master programs offered by Nova since they exclude economics. For the latter, we rely instead on the *Eduniversal* rankings. Doing so introduces an obvious non-comparability issue since the methodology followed by the *FT* differs markedly from that followed by *Eduniversal*. Nevertheless, we decided to perform the analysis for economics programs on the basis of the latter ranking.

In order to gauge the time trend of volatility, we compute volatility indices for the following pairs of final and initial years:¹²

- Economics: (2018–2015), (2015–2012);
- Finance: (2018–2015), (2015–2012);
- Management: (2018–2015), (2015–2012), (2012–2009).

The number of ranked programs varies across rankings and years. So, we set $n = 50$ for economics, $n = 35$ for finance, and $n = 50$ for management, where n is the number of top-ranked programs used to compute the index.

Another maintained hypothesis is that any methodology changes effected by the *Financial Times* and *Eduniversal* over time are assumed to not have a bearing on the relative position of the programs. This would ensure that the values reported would be impervious to methodology changes put in place over the years. In our opinion, this maintained hypothesis is weak, and thus tenable. The results are summarized in Table 2.

TABLE 2: Pre-experience master programs' market volatility index

Program (<i>Ranking</i>)	Time period		
	2018–2015	2015–2012	2012–2009
Economics (<i>Eduniversal</i>)	18.8 %	26.0 %	—
Finance (<i>FT</i>)	22.4 %	24.4 %	—
Management (<i>FT</i>)	20.9 %	27.2 %	28.9 %

¹² These choices were dictated by data availability.

For concreteness, suppose that the volatility index equals 25% and $n = 50$ for a given type program. This implies that each ranked school offering such a program sees its position vary by about 12 places on average over the (relatively short) time period of three years. This interpretation makes it clear that the market for pre-experience master programs is fairly volatile, indicating that competition in this market is indeed quite marked. Moreover, though no formal statistical test was performed regarding the time variability of the volatility index, its observed variation over time suggests that the turbulence introduced by competition is itself not time invariant, with periods of particularly marked changes in the relative position of the contending programs. One may even discern a budding negative time trend in volatility. However, the scarcity of observation points prevents us from making definite statements regarding such a trend.

The market analysis reveals that Nova currently operates in a challenging environment, requiring flexibility and fast reactions to market changes.

4.2.2 | Nova's core resources as a source of sustainable competitive advantage (VRIO)

After the analysis of Nova's external environment, we now take an internal perspective on Nova's resource platform to understand the source of Nova's success and evaluate its sustainability. Using Barney's (1995) VRIO framework, we analyze the key resources for their value (V), rarity (R), and cost of imitation (I) in order to identify "resources that have the potential for generating a sustainable competitive advantage" (Barney, 1995). Building on this, we appraise Nova's organizational capability to exploit those resources (section 4.2.2).

Resources are categorized in terms of the nature of the value they bring to students, i.e., whether they increase differentiation ("superior value") or decrease costs. This typology has implications on the strategies that need to be implemented in order to effectively exploit the resources' potential. We identified the resources based on the answers to the student survey. We queried international Nova master students regarding their key decision drivers for

choosing to apply to one of Nova's three master programs. The students were asked to allocate 100 points in total to 15 attributes, according to their importance for selecting Nova (see Appendix 2). From those 15 attributes, we select the top 7 for further analysis since there is a huge gap between the seventh and eighth attribute. With a mean value of 15.4 and 14.5 points, "location" and "few mandatory admission requirements (no language test or GMAT required and no specific academic background required)" are clearly the highest-rated attributes, followed by "reputation" (10.8), "course offer" (10.6), "low costs" (9.0), "CEMS" (8.7) and "international orientation" (6.6). Except for "low costs", the attributes meet Barney's (1995) definition of "resources". In terms of "low costs", it is necessary to identify the underlying resource that enables Nova to offer its master programs at a relatively low cost. We identified the resources "financially supportive alumni and company networks" and "low input costs caused by a low price-level".

Table 3 summarizes the results of the VRIO analysis. It must be noted that this selection of attributes is not final. Other attributes of Nova, for instance, research, culture, and quality of students could be potential resources for generating sustainable competitive advantage. To not go beyond the scope of this paper, we focus on the resources that are most important for attracting international students.

The fact that all resources listed in the table were cited by international Nova students as major influencing factors for their application decision indicates that a significant number of potential applicants values those attributes. We conclude that each resource enables Nova to respond to market opportunities by serving specific needs and preferences of international applicants. Thus, we consider all resources as valuable. Regarding rareness and imitability, each resource is examined individually below.

TABLE 3: Summary of the VRIO analysis

Key resources		Superior value or low cost	Step 1			Step 2		Competitive implications
			V	R	I	O		
			Valuable	Rare	Inimitable	Organized		
1.	Location	value	✓	✓	✓	✓	Sustainable competitive advantage	
2.	Few admission requirements	value	✓	✓	✗	—	Temporary competitive advantage	
3.	Reputation	value	✓	✓	✓	✓	Sustainable competitive advantage	
4.	Course offer	value	✓	✗	—	—	Competitive parity	
5.	Financially supportive alumni and company networks	low cost	✓	✓	✓	✓	Sustainable competitive advantage	
6.	Low input costs caused by low price level	low cost	✓	✓	✓	✓	Sustainable competitive advantage	
7.	CEMS program	value	✓	✓	✓	✓	Sustainable competitive advantage	
8.	International orientation	value	✓	✗	—	—	Competitive parity	

■ source of sustainable competitive advantage

Location The location can be considered rare since there are only a few universities that offer comparable programs located in Lisbon (e.g. Católica, IESEG). Imitation would require a costly relocation. Hence, this resource can be classified as inimitable. In sum, the location is valuable, rare and inimitable, so it is a potential source of sustainable competitive advantage.

Admission requirements To test if Nova's few mandatory admission requirements are rare, a sample of 20 schools listed in the *FT* and *Eduniversal* rankings is examined (see Appendix 5). To avoid sample bias, the sample contains a diverse selection of schools. These differ in terms of location, tuition fees, reputation, and size, and hence represent the international masters market in sufficient detail despite its diversity. The sample also contains the top schools that

were cited by students as “alternatives they considered when selecting a master program”, as well as the schools the program managers mentioned as Nova’s closest competitors.

The sample contains only a few universities that do not require the GMAT test and a proof of language proficiency. Therefore, having few admission requirements can be considered rare. Since lowering a school’s admission requirements is an easy-to-implement measure, it is not costly to imitate. The resource is valuable and rare but not costly to imitate. Therefore, it is a source of temporary competitive advantage.

Reputation To determine whether reputation is rare, we analyze ranking and accreditation data. The number of schools that perform equally or better than Nova (see section 4.1.2 for details) in both rankings and accreditation processes is limited. 88 schools worldwide¹³ are accredited with the “triple crown” (mba.today, 2018). 30 schools are higher or equally ranked than Nova in the *FT* management ranking, 20 in the *FT* finance ranking and 2 in the Eduniversal economics (Western Europe) ranking (Financial Times, 2018; Eduniversal, 2018). Therefore, reputation can be classified as rare. Universities need to fulfill multiple criteria in order to get accredited and top-ranked. The accreditation process itself is lengthy, time and effort consuming, and thus costly to complete. Consequently, Nova’s reputation can be considered a resource that has the potential for generating sustainable competitive advantage.

Course offer To assess whether Nova’s course offer is a rare resource, we compare Nova’s course offer to the course offer of a sample of 10 schools listed in the *FT* and *Eduniversal* rankings (see Appendix 6). Again, the sample contains a diverse selection of schools (in terms of location, tuition fees, reputation, and size). The comparison shows that the majority of competitors offers either a similar range of elective courses or alternatively a high number of specialized programs. Only few universities in the sample significantly lack behind in terms of

¹³ As of October 2018.

course offer. Since Nova's course offer can be considered valuable but is common in the market (i.e., not rare), we deem it a source of competitive parity.

Financially supportive alumni and company network Nova has a network of companies and alumni that strongly supports the school with donations. The new campus, which was primarily financed by donations, illustrates this support (Nova Campaign, 2018). A philanthropic support of this scale is generally rare in Europe (Foundation de France, 2015). Since it is based on complex social relationships, it can also be classified as difficult to imitate (Barney, 1995).

Low input costs caused by low price-level Nova is located in a country with a relatively low price level (International Monetary Fund, 2018), so the school has relatively low input costs (salaries, facilities, maintenance etc.). Since most business schools ranked in the *FT* ranking are located in Western European countries with higher price levels (Financial Times, 2018; International Monetary Fund, 2018), this resource can be considered rare. An imitation would require an expensive relocation, so it is costly to imitate.

CEMS program Since only 32 schools worldwide are part of the CEMS alliance (CEMS 2018), this resource can be considered rare. The membership is limited to one university per country, so it is also inimitable for the vast majority of business schools. Therefore, this resource has the potential to generate sustainable competitive advantage.

International orientation We assess a diverse sample of 10 schools regarding their strategy and mission, their share of international students and their offer of international programs (CEMS, double degrees, and exchange programs). All universities have an international focus and a comparable large offer of international programs. Only in terms of the share of international students some universities lack behind. Nevertheless, we consider an international outlook as rather common in the market. Hence, it is a source of competitive parity.

We have identified 5 resources that have the potential for generating sustainable competitive advantage. The analysis also shows that one of the most important attributes from a student's perspective, Nova's admission requirement, is only a source of temporary competitive

advantage. In other words, a part of Nova's success is based on a characteristic that can easily be imitated by its competitors. The likelihood of imitation is unclear. On the one hand, universities tend to keep their admission requirements high in order to signal the quality of their students to hiring organizations (Pfeffer, Fong, 2004). On the other hand, universities can increase their pool of applicants significantly by lowering their mandatory admission requirements and differentiating through diverse selection criteria (e.g. professional experience, academic background). This strategy could be especially relevant for second-tier-schools (e.g., WU Vienna, University of Cologne) that receive fewer international applications.

4.2.3 | Nova's organizational capabilities (VRIO)

According to Barney (1995), a firm can only exploit the potential of its resources if it has sufficient organizational capabilities. There are numerous components that determine this capability. Drawing upon Brown and Mazzarol's (2009) finding that customer orientation is a critical factor for successfully managing universities, we put a particular focus on the customer-orientation of Nova's program managers. We assess how well the program managers know the students' and applicants' preferences and check if there are sufficient control mechanisms that allow for the customer-oriented improvement of the programs in place.

We asked the same set of questions to both program managers and students and compared their responses to measure the degree of their alignment. The survey inquires about Nova's marketing channels, the students' motives to apply and enroll at Nova, Nova's strengths and weaknesses in general, as well as the level of student satisfaction. The interview results are summarized in Table 4. Counting the number of matches and mismatches in the program managers' responses, we find that managers are aligned with the students' responses in roughly 60% of the cases.

TABLE 4: Comparison of students' and program managers' survey responses

Questions	Students' responses	Match	Managers' responses Manager 1	Manager 2	Manager 3
1. What are Nova's most important marketing channels?	<ul style="list-style-type: none"> - FT ranking - Word of mouth - Nova homepage - Online research - CEMS program 	<ul style="list-style-type: none"> ✓ ✓ ~ ✗ ✗ 	<ul style="list-style-type: none"> ✓ FT ranking ✓ Word of mouth 	<ul style="list-style-type: none"> ✓ FT ranking ✓ Word of mouth 	<ul style="list-style-type: none"> ✓ Word of mouth ✓ Nova homepage; ○ Eduniversal ranking (not well known)
2. Which factors do international master students weight when they apply to Nova?	<ul style="list-style-type: none"> - Location - Few admission requirements - Reputation - Course offer - Low tuition fees - CEMS program - International orientation 	<ul style="list-style-type: none"> ✓ ✗ ✓ ✓ ✓ ✗ ~ 	<ul style="list-style-type: none"> ✓ Reputation ✓ Location ✗ New campus (in the future) ✓ Low tuition fees ✓ Course offer ✓ Diversity (= international orientation) 	<ul style="list-style-type: none"> ✓ Rankings ✓ Low costs ✓ Location ○ Innovative programs ✓ Course offer ✗ Practical teaching ✗ Facilities (new campus) 	<ul style="list-style-type: none"> ✗ Quality of teaching ✗ Successful placements ✗ Practical orientation ✓ Location
3. What are the strengths of Nova?	<ul style="list-style-type: none"> - Location - International orientation - Course offer - Reputation - Teaching methods 	<ul style="list-style-type: none"> ✓ ~ ✓ ✓ ✓ 	<ul style="list-style-type: none"> ○ Mission ✓ Diversity (=international orientation) ✓ Preparation for the job market through rigorous teaching ✓ Course offer ✓ Location ✓ Reputation 	<ul style="list-style-type: none"> ✓ Rigorous teaching ✓ Course offer ✓ Practical approach ✓ New campus ✗ Finance: quality and reputation of teaching staff 	<ul style="list-style-type: none"> ~ Quality of teaching ○ Successful placements ○ Quality of students ✓ Course offer ✓ Quality of teaching staff ✓ New campus ✓ Economics: small size, well organized
4. What are the weaknesses of Nova?	<ul style="list-style-type: none"> - Organization / administration (except economics) - Old campus - Mainly domestic teaching staff - Quality of teaching staff 	<ul style="list-style-type: none"> ✓ ✓ ✗ ✗ 	<ul style="list-style-type: none"> ✓ Administration, organization ○ Management: content of mandatory courses; Image of Portugal; Financial restrictions 	<ul style="list-style-type: none"> ✓ Administration/organization ✓ Relatively small career office ○ Finance: Lisbon is not a financial center; financial restrictions 	<ul style="list-style-type: none"> ○ Image of Portugal ○ Financial restrictions
5. On a scale from 1 to 10, what is the level of satisfaction of Nova students?	<ul style="list-style-type: none"> - Overall: 6.5 - Management: 6.4 - Finance: 6.0 - Economics: 7.7 	<ul style="list-style-type: none"> ✗ ✗ ✗ ✓ 	<ul style="list-style-type: none"> ✓ Management: > 6 ✓ economics higher, finance lower 	<ul style="list-style-type: none"> ✗ 7 - 8 	<ul style="list-style-type: none"> ✗ Overall: 7 ✓ Economics: 8

✓ match ✗ mismatch ~ partly match ○ other factor mentioned by managers (not part of the survey)

In the following, each question will be analyzed briefly.

With regard to marketing channels, the managers are aware that rankings and word of mouth are Nova's most important attraction factors, but they underestimate the role of the Nova homepage and web searches in search engines such as Google.

Looking at student motives for applying to Nova, both program managers and students mentioned location, low costs, reputation and the course offer as decisive factors. However, no program manager seemed to be aware of the important role of the current low level of admission requirements, which is among the top three students' responses. They also underestimate the importance of the CEMS program and the international orientation of Nova.

Interestingly, there seem to be diverging views regarding Nova's new campus. While the managers consistently consider the new campus as a source of differentiation, the students seem to perceive Nova's new campus as rather standard. The respondents mentioned the new campus neither as a motive to apply, nor as a particular strength. Yet, they mentioned the old campus as a major source of dissatisfaction. The old campus can hence be viewed as a source of competitive disadvantage, while the new campus forms a source of competitive parity. Therefore, the new campus is likely to help Nova to better meet their customers' expectations regarding the facilities, but we would not expect a significant increase in applications due to the new campus.¹⁴

The managers mentioned all factors which the students consider as Nova's strengths. However, there is a mismatch concerning the quality of teaching staff. While the managers see this as a particular strength of Nova, a noticeable number of students expressed concerns regarding the quality of teaching. Moreover, some students criticized a high share of domestic lecturers

¹⁴ All students (and hence all respondents) are already attending the new campus that was opened in the academic year 2018/19. The value in the survey was comparably low for both first and second year students. We posit that students, especially first year students, were aware of the new campus when they applied, since the new campus is advertised extensively in Nova's homepage.

among the faculty staff. The managers are aware that organization and administration are Nova's most cited weaknesses.

The managers slightly overestimate the level of student satisfaction. We asked students to rate their level of satisfaction on a scale from 1 to 10 (0 = completely unsatisfied, 10 = completely satisfied). While the average value selected by students is 6.5, the managers estimate a value between 7.0 and 8.0. 78.0% of students selected a value greater than 5.0, 17.0% selected 5.0 and 15.0% selected a value below 5.0. Economics reaches the highest level of satisfaction (7.7), followed by finance (6.9) and management (6.4). Nonetheless, the vast majority of the students (82.8%) would apply to Nova again.

The analysis reveals three major inconsistencies that involve the risk of deterioration of Nova's current competitive position. First, the management is not aware of the fact that a part of Nova's success is based on the low admission requirements, which can be easily imitated by competitors. This entails the risk of not being prepared for a potential loss of this temporary competitive advantage. Thus, we propose that Nova addresses this risk by focusing on expanding its sources of sustainable competitive advantage to be able to compensate for a potential change in its competitive environment. Second, the survey results indicate that it is unlikely that Nova's new campus will lead to a competitive advantage. It is crucial that Nova's management does not overestimate the positive effect of the new campus and keeps paying attention to other critical strengths and weaknesses of the school, such as the quality of teaching, administration and organization. The managers should be aware that the quality of teaching staff is currently not a source of competitive advantage. Instead, it is at risk of rather turning into a competitive disadvantage. To mitigate this risk, Nova's management could increase its focus on the assessment and improvement of its teaching staff, with a particular on the hiring of more international staff.

We also examine whether Nova has effective customer-oriented control mechanisms in place that enable the school to continuously improve its programs. Nova management conducts a comprehensive survey once a year to gauge student satisfaction, as well as likes and dislikes. Students also have the opportunity to evaluate each course they attended through an online survey.¹⁵ The program managers seem to know the survey results well and demonstrate that they put effort into improving the weaknesses they identify. For instance, current efforts to improve the administration through better IT systems and clear processes underline the school's willingness to react to detected weak points. Thus, it can be concluded that Nova has effective control mechanisms in place to continuously improve the quality of its programs.

In conclusion, we find that Nova has customer-oriented program managers that are generally well aware of the most important preferences, likes and dislikes of their students, as well as having effective control mechanisms in place that help them to continuously improve the quality of Nova's offering. In the VRIO framework, Nova can hence be considered as being organized to exploit its resources. Our analysis leads us to expect Nova to sustain its competitive position in the near future. However, we outline several risks the school needs to address in order to keep attracting international students.

5 | CONCLUSION

We sought to assess the sustainability of Nova's competitive position in the international pre-experienced masters market with regard to the acquisition of international (i.e. non-Portuguese) students. Drawing on a comprehensive analysis, we are optimistic that Nova will retain its competitive momentum in the near future.

Building on Nova's geographical location, reputation and the offer of the CEMS program, the school can positively differentiate itself. At the same time, a supportive alumni and company network and a comparatively low price level in Portugal allow Nova to offer its master

¹⁵ Statement of Nova's program managers.

programs at a relatively low price. A combination of differentiation and cost-leadership strategies would ensure success in the near future.

The analysis also showed that Nova has customer-oriented program managers who are largely in tune with their (student-) customers' motives, likes, and dislikes. Nevertheless, some inconsistencies that involve the risk of deterioration of Nova's current competitive position have been identified. It is crucial that managers bear those risks in mind and mitigate them with targeted measures.

We saw that the competition in the international pre-experience masters market is intense and fast changing. Therefore, we would recommend the Nova management to regularly monitor changes and trends in the market and keep its organizational structures benchmarked and attuned to best practices put in place by competitors. We also recommend Nova focus on the stabilization of the rather volatile *FT* ranking position of the master in management. In view of the skewed distribution of nationalities, we suggest a rebalancing of the student body's nationality proportions aimed at diversifying it in order to lower the concentration risk detected in the analysis.

There are a number of limitations regarding this study that should be addressed in further research. First, the sample size is relatively small, and the sample is restricted to current Nova students. It could be extended, for instance, by including students that applied to Nova and rejected the offer and to students that have deliberately not applied to Nova. Due to time constraints, the focus of this research maintained an internal perspective, mainly taking resources and the organization into account. It could be expanded through a broad analysis of Nova's environment that identifies opportunities and threats that the school should address. Also, the benchmarking with close competitors could be extended in terms of schools and categories. Further research could also investigate additional resources, for instance Nova's research and its culture.

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Appendices

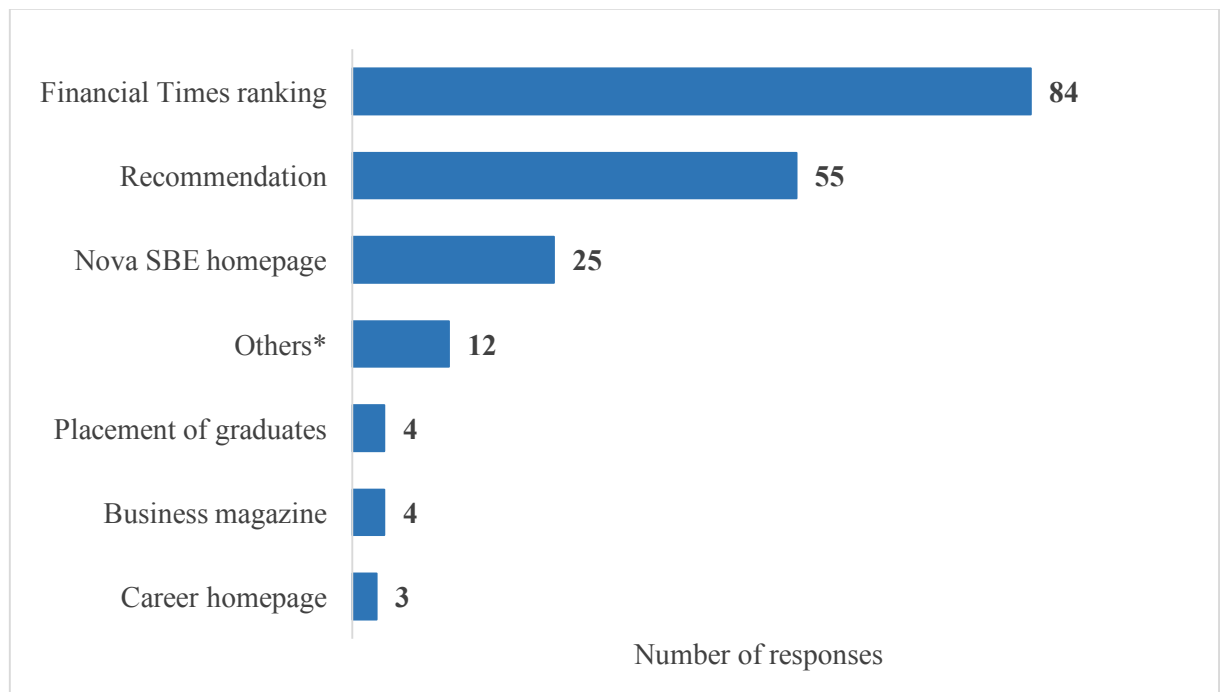
APPENDIX 1 | Interview questions (for Nova program managers)

- Question 1 Could you please give me a brief overview of your position at Nova SBE? (responsibilities, tasks etc.)
- Question 2 How long have you been in this position?
- Question 3 In your view, what does Nova SBE stand for? What is the mission of the school?
- Question 4 Do you think internationalization is important for a business school? If yes, why is it important?
- Question 5 Does Nova SBE focus on a specific target group when it comes to attracting international students? (specific countries, continents, etc.)
- Question 6 How do think international master students get to know about Nova SBE? In other words, what are the most important marketing channels for the school as far as international master students are concerned?
- Question 7 In your experience, what are the characteristics that contribute to the quality of a master program?
- Question 8 In your experience, what are the characteristics that contribute to the reputation of a master program? (Are there differences to the previous answer?)
- Question 9 Overall, in your experience what are the strengths of Nova SBE? (In general/with regard to the specific programs)
- Question 10 Overall, in your experience what are the weaknesses of Nova SBE? (In general/with regard to the specific programs)
- Question 11 In your experience, which factors do international master students weight when they apply to Nova SBE?
- Question 12 In your experience, what are Nova SBE's strengths in attracting international master students? (In general/with regard to the specific programs)
- Question 13 In your experience, what are the weaknesses of Nova SBE when trying to attract international master students? (In general/with regard to the specific programs)
- Question 14 Is Nova SBE currently trying to address its weaknesses? If yes, how? If no, why not?
- Question 15 On a scale from 1 to 10, how satisfied do you think Nova's master students are with the program they are enrolled in? How many do you think would apply again? (In general/with regard to the specific programs)
- Question 16 Do you measure the level of satisfaction of students? If yes, how?
- Question 17 In your experience, which schools are Nova SBE's toughest competitors in terms of attracting international master students? (In general/with regard to the specific programs)

- Question 18 Which characteristics make the schools you selected Nova SBE's toughest competitors in the market for international master students? (In general/with regard to the specific programs)
- Question 19 In your experience, which characteristics positively differentiate Nova SBE from its competition? (In general/with regard to the specific programs)
- Question 20 In your experience, which characteristics negatively differentiate Nova SBE from its competition? (In general/with regard to the specific programs)
- Question 21 What do you think are the challenges in the international higher education market in the next years?

APPENDIX 2 | Student survey results

Question 1 How did you come to know about Nova?



***Others:**

- Web search (5)
- CEMS (4)
- Career fair (1)
- Erasmus (2)

Question 2 Why did you choose Nova SBE for your master (i.e. your motives to apply and enroll)? Please attribute in total 100 points according the importance of the reason for you (0 = irrelevant, 100 = very important)

#	Field	Minimum	Maximum	Mean	Std. Deviation	Variance	Count
1	Career management/relations to companies	0.00	50.00	3.46	9.01	81.18	107
2	CEMS program	0.00	100.00	8.65	20.17	406.96	107
3	Course offer	0.00	70.00	10.60	16.39	268.73	107
4	Few admission requirements (no language test/GMAT, no business background required)	0.00	100.00	14.45	18.43	339.56	107
5	High employability rate after graduation	0.00	100.00	4.02	11.69	136.64	103
6	High expected salary after graduation	0.00	100.00	3.77	14.68	215.48	103
7	International orientation	0.00	40.00	6.55	8.87	78.64	107
8	Location (city, weather, beach etc.)	0.00	60.00	15.36	15.60	243.28	107
9	New campus	0.00	100.00	2.28	10.32	106.48	107
10	Partner university network	0.00	30.00	1.89	5.98	35.73	107
11	Quality of teaching	0.00	35.00	2.86	6.85	46.91	107
12	Relatively low costs	0.00	50.00	8.97	11.06	122.25	107
13	Reputation (e.g. Financial Times Ranking)	0.00	50.00	10.83	11.43	130.59	107
14	Scholarship	0.00	50.00	2.44	7.53	56.66	107
15	Teaching methods (e.g. group work, practical case studies)	0.00	100.00	2.96	13.17	173.46	107
16	Others*	0.00	50.00	1.20	6.61	43.65	107

***Others:**

- Good atmosphere between students (1)
- Acceptance of free mover students (1)

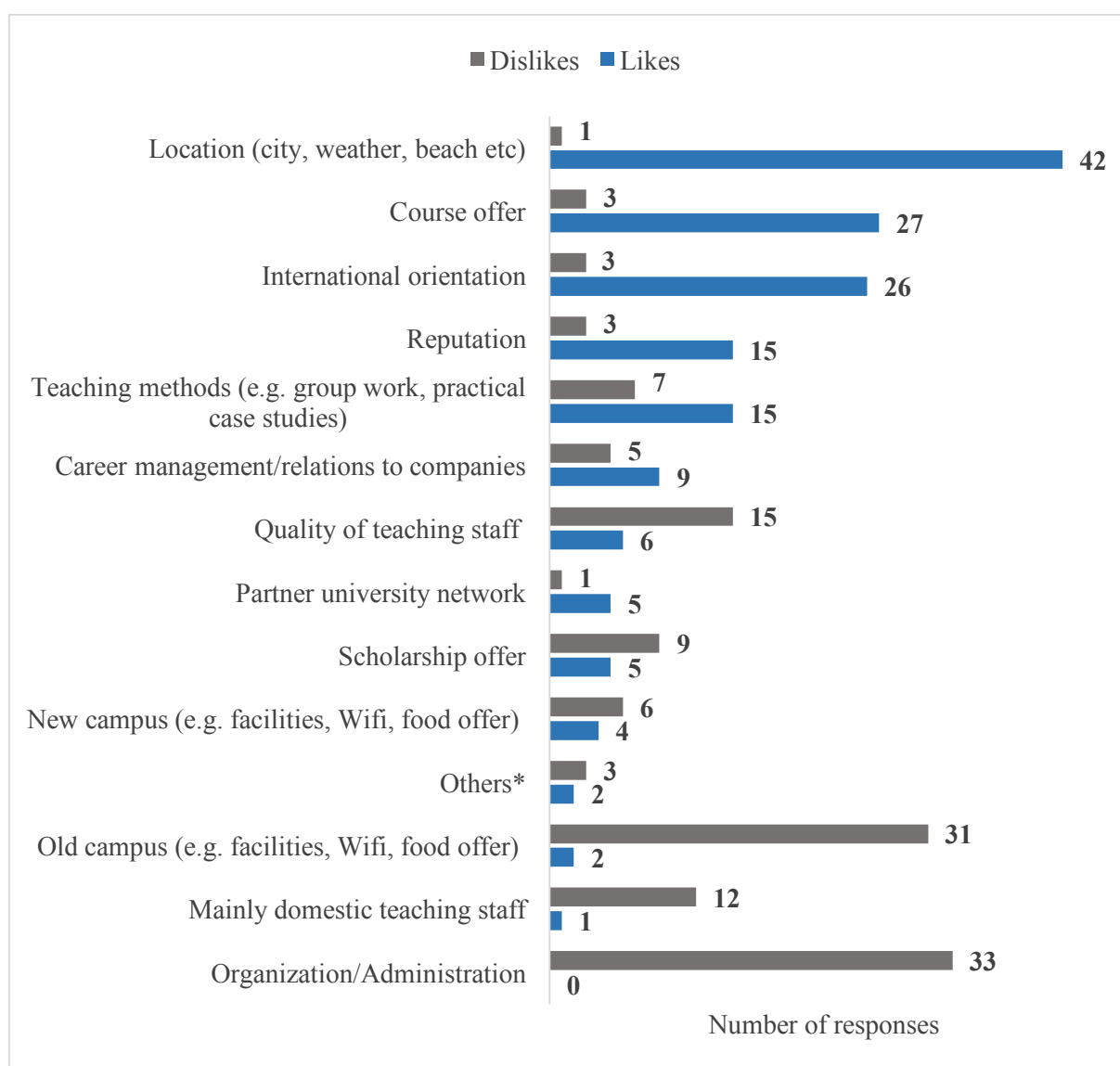
Question 3 Did you already complete at least one semester? (= filter question for questions 4 – 7)

	No. of responses	In percent
Yes	61	57.01 %
No	46	42.99 %
Total	107	100.00 %

Question 4 Please indicate how well Nova matched your expectations:

Rate	Much less than expected				Matched expectations				Greatly exceeded expectations			
	0	1	2	3	4	5	6	7	8	9	10	
%	2 %	2 %	7 %	12 %	17 %	17 %	14 %	12 %	10 %	3 %	3 %	
No. of responses	1	1	4	7	10	10	8	7	6	2	2	

Question 5 Based on your experience up to now - what do you like most and dislike most about the Nova SBE master? Please select at most three answers for each by picking them from the list on the left and dragging them to the box on the right:



***Others:**

- Lack of strict grading guidelines (1)
- Too much group work (1)

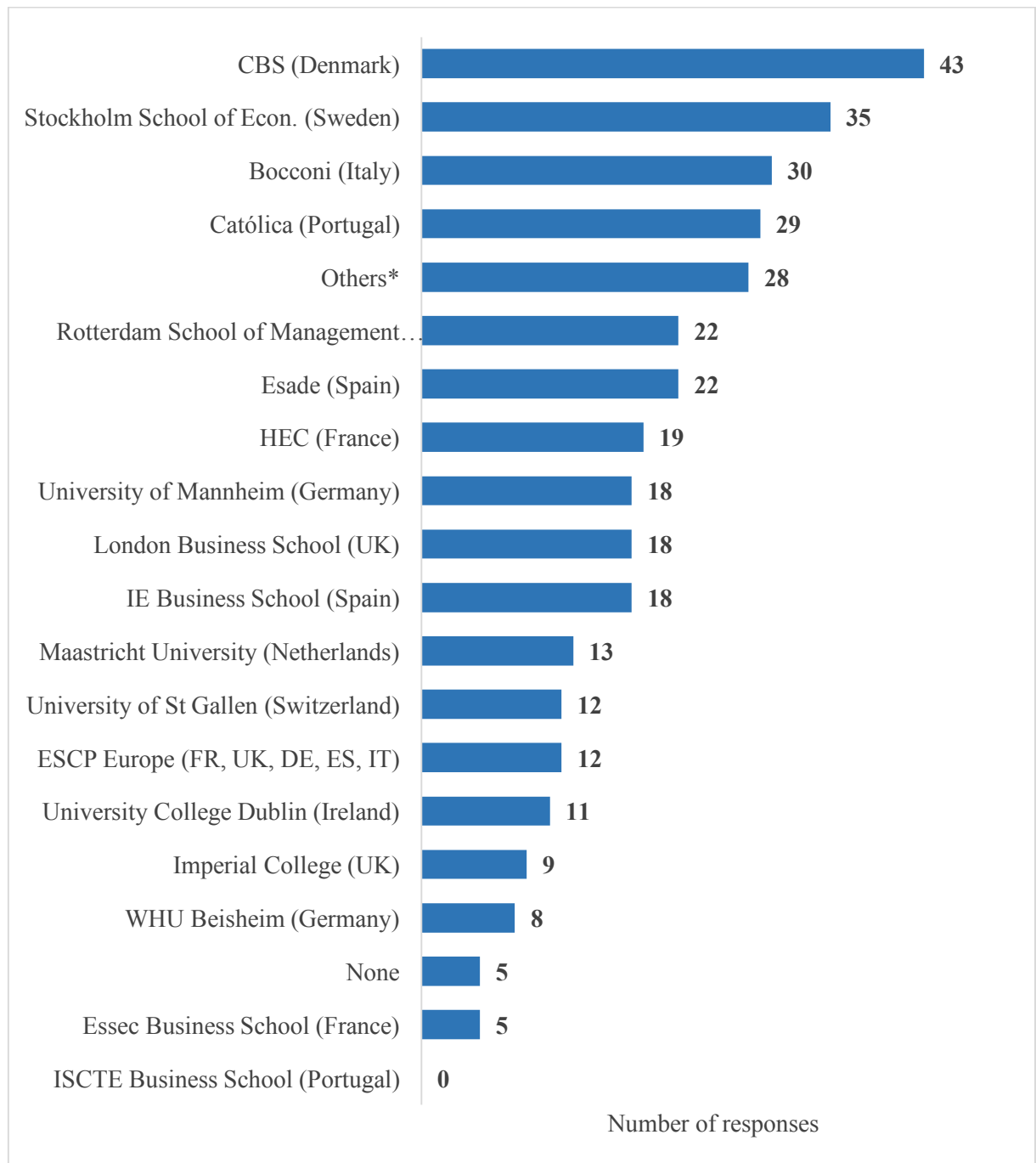
Question 6 Based on your experience up to now – would you have applied to Nova SBE again?

	No. of responses	In percent
Yes	48	82.76 %
No	10	17.24 %
Total	58	100.00 %

Question 7 Overall, how satisfied are you with your master experience?

Rate	Completely unsatisfied							Completely satisfied			
	0	1	2	3	4	5	6	7	8	9	10
%	0 %	0 %	3 %	3 %	9 %	7 %	19 %	33 %	16 %	7 %	3 %
# responses	0	0	2	2	5	4	11	19	9	4	2

Question 8 Which other universities did you consider as an option for your master?



***Others:**

- WU Vienna (3), Austria
- "Schools in Canada" (1)
- HKUST Hong Kong, China (1)
- IESEG, France (1)
- EDHEC, France (3)
- HEC Lausanne, France (1)
- Paris Dauphine, France (1)
- Humboldt University, Germany (1)
- Free University of Berlin, Germany (1)
- Tilburg University, Netherlands (1)
- University of Amsterdam, Netherlands (1)
- Kozminsky University, Poland (1)
- EAE, Spain (2)
- UC3M, Spain (2)
- University of Goteborg, Sweden (1)
- University of Lund, Sweden (1)
- Linköping University, Sweden (1)
- LSE, UK (2)
- Kings College, UK (2)
- "Schools in the UK" (1)
- Ross School of Business, US (1)

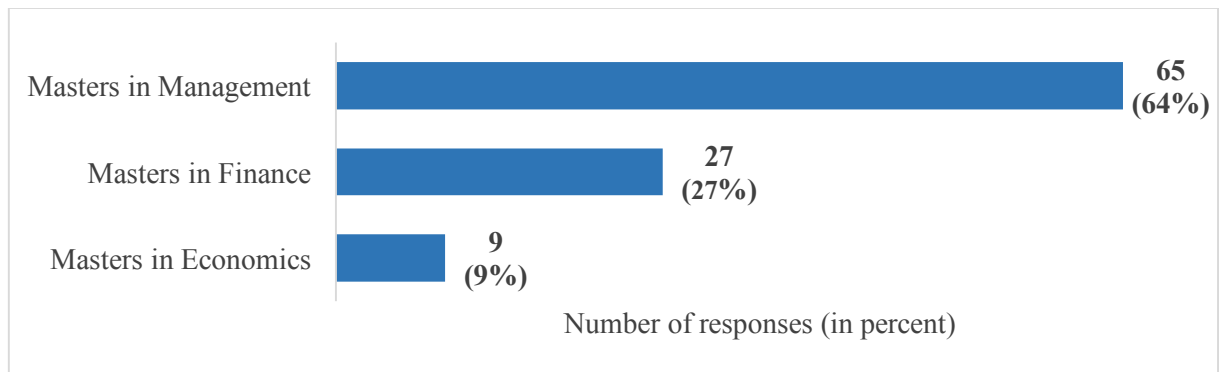
Question 9 Was Nova SBE your first choice?

	No. of responses	In percent
Yes	77	74.76 %
No	26	25.24 %
Total	58	100.00 %

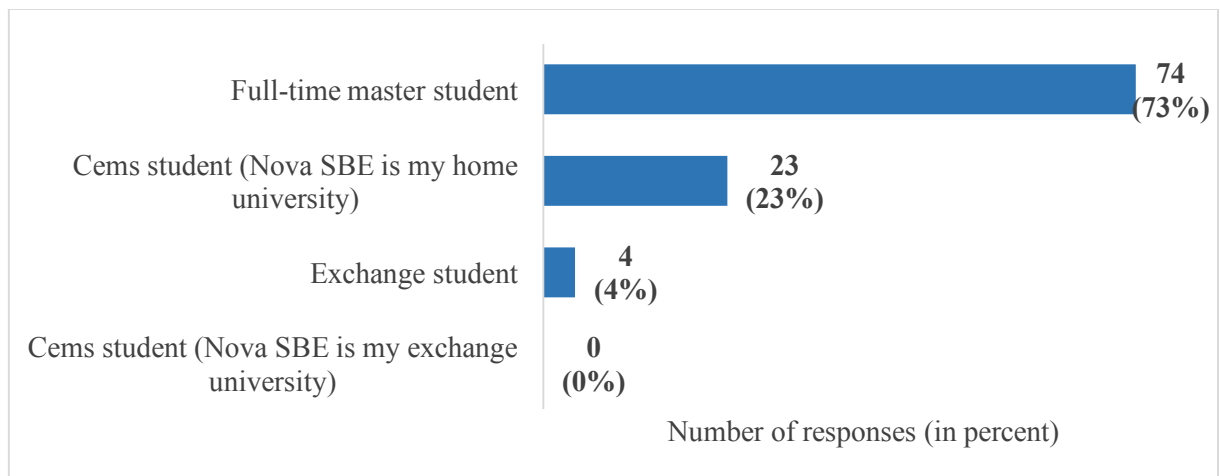
Question 10 Did you consider universities outside of Europe as an option for your master?

	No. of responses	In percent
Yes	42	40.78 %
No	61	59.22 %
Total	58	100.00 %

Question 11 In which program are you enrolled?



Question 12 What is your current student status?



Question 13 What is your nationality?

Nationality	No. of responses	In percent
Germany	39	42%
Italy	12	13%
France	6	6%
Brazil	5	5%
Canada	3	3%
Sweden	3	3%
Austria	2	2%
Belgium	2	2%
Ecuador	2	2%
Mexico	2	2%
Netherlands	2	2%
Norway	2	2%
Argentina	1	1%

Nationality	No. of responses	In percent
Australia	1	1%
Colombia	1	1%
Croatia	1	1%
Czech Republic	1	1%
Denmark	1	1%
Egypt	1	1%
Ireland	1	1%
Slovenia	1	1%
Spain	1	1%
Switzerland	1	1%
Turkey	1	1%
UK	1	1%

APPENDIX 3 | Nova's application and enrollment data

Program	Academic year	Applications (absolute)	Admissions (absolute)	Acceptance rate (admissions/applications)	Enrollments (absolute)	Rate of rejection (=1-enrollments/admissions)	% foreign students
Management (including international management)	2014-15	1007	495	49%	280	43%	36%
	2015-16	1149	653	57%	378	42%	47%
	2016-17	1321	426	32%	309	27%	30%
	2017-18	1639	496	30%	319	36%	38%
	2018-19 ¹	1492	506	34%	375	26%	52%
Finance (including international finance)	2014-15	353	207	59%	125	40%	34%
	2015-16	395	213	54%	137	36%	34%
	2016-17	481	251	52%	175	30%	25%
	2017-18	618	333	54%	239	28%	41%
	2018-19	685	435	64%	354	19%	40%
Economics	2014-15	107	76	71%	45	41%	24%
	2015-16	145	105	72%	65	38%	31%
	2016-17	121	84	69%	53	37%	32%
	2017-18	132	86	65%	56	35%	39%
	2018-19	154	98	64%	81	17%	35%

Program	Academic year	Growth rate applications	Growth rate enrollments	Growth rate enrollments foreign students
Management (including international management)	2015-16	14%	35%	76%
	2016-17	15%	-18%	-48%
	2017-18	24%	3%	33%
	2018-19 ¹	-9%	18% ¹	61%
	Average	11%	9%	30%
Finance (including international finance)	2015-16	12%	10%	10%
	2016-17	22%	28%	-6%
	2017-18	28%	37%	122%
	2018-19	11%	48 %	45%
	Average	18%	31%	43%
Economics	2015-16	36%	44%	87%
	2016-17	-17%	-18%	-16%
	2017-18	9%	6%	29%
	2018-19	17%	45%	30%
	Average	11%	19%	32%

Source: Nova admissions office

1) Spring intake 2018-19 not included due to data unavailability

APPENDIX 4 | Nova's *FT* ranking positions in management/finance for 2010/11 – 2018

Year	Rank Nova <i>FT</i> <i>management</i>	Rank Nova <i>FT</i> <i>finance</i>
2010	57	—
2011	61	29
2012	50	21
2013	54	22
2014	48	19
2015	31	19
2016	17	14
2017	17	19
2018	30	21

Source: Financial Times

Standard deviation / arithmetic mean	
Management:	$\sigma = 16$ $\bar{X} = 40,6$
Finance:	$\sigma = 3,9$ $\bar{X} = 20,5$

APPENDIX 5 | Competitor benchmarking: admission requirements

No.	School name (Location)	GMAT	Bachelor- course-related requirements	TOEFL/ IELTS/ Cambridge	Requirements relative to Nova
1.	Nova SBE (Portugal)	No	No	No	
2.	Bocconi University (Italy)	Yes	No	Yes	Higher
3.	Católica (Portugal)	No	No	No	Equal
4.	Copenhagen Business School (Denmark)	No	Yes	Yes	Higher
5.	ESADE Business School (France)	No	Yes	No	Slightly higher
6.	ESCP Europe (France)	Yes	No	Yes	Higher
7.	HEC Paris (France)	Yes	No	Yes	Higher
8.	IE Business School (Spain)	Yes	No	Yes	Higher
9.	Imperial College (UK)	Yes	No	Yes	Higher
10.	Kozminski University (Poland)	No	No	Yes	Slightly higher
11.	London School of Economics (UK)	Yes	No	Yes	Higher
12.	Maastricht University (Netherlands)	Yes	Yes	No	Higher
13.	Rotterdam School of Business and Economics (Netherlands)	Yes	Yes	Yes	Higher
14.	SJTU International Business School (China)	No	No	Yes	Slightly higher
15.	Stockholm School of Business and Economics (Sweden)	Yes	Yes	Yes	Higher
16.	St. Petersburg University (Russia)	No	No	No	Equal
17.	University of Cologne (Germany)	Yes	Yes	Yes	Higher
18.	University of Mannheim (Germany)	Yes	Yes	No	Higher
19.	University of St. Gallen (Switzerland)	Yes	Yes	Yes	Higher

No.	School name (Location)	GMAT	Bachelor- course-related requirements	TOEFL/ IELTS/ Cambridge	Requirements relative to Nova
20.	WHU Beisheim (Germany)	Yes	No	Yes	Higher
21.	Wirtschaftsuniversität Wien (Austria)	Yes	Yes	Yes	Higher

Result:

- **75%** of the universities have **higher** admission requirements (at least two of three criteria required)
- **15%** of the universities have **slightly higher** admission requirements (one out of three criteria required)
- **10%** of the universities have **equal admission** requirements (none of the three criteria required)

Source: School homepages (www.novasbe.unl.pt; www.unibocconi.eu; www.clsbe.lisboa.ucp.pt; www.cbs.dk; www.esade.edu; www.escpeurope.eu; www.hec.edu; ie.edu; www.imperial.ac.uk; www.kozmisky.edu.pl; www.lse.ac.uk; www.maastrichtuniversity.nl; www.rsm.nl; www.sjtu.edu.cn; www.hhs.se; www.english.spbu.ru; www.uni-koeln.de; www.uni-mannheim.de; www.unisg.ch; www.whu.edu; www.wu.ac.at)

APPENDIX 6 | Competitor benchmarking: course offer

No.	School name (Location)	Program and course offer
1.	Nova SBE (Lisbon)	<ul style="list-style-type: none"> – 5 programs – 10 areas of expertise in mgmt.; 4 areas of expertise in finance, 5 areas of expertise in economics – 83 elective courses offered
2.	Bocconi University (Milan)	<ul style="list-style-type: none"> – 11 master programs: International mgmt.; mgmt.; marketing mgmt.; accounting, financial mgmt. and controlling; finance; economics and mgmt. in arts, culture, media and entertainment; economics and mgmt. of government and international organizations; economic and social sciences; economics and mgmt. of innovation and technology; data science and business analytics; politics and policy analysis – 118 elective courses offered, but students can only enroll into 3-4 courses
3.	Católica (Lisbon)	<ul style="list-style-type: none"> – 6 master programs: international mgmt. (4 majors), finance, economics, mgmt. strategic marketing, mgmt. strategy & entrepreneurship, business for non-business graduates – 115 elective courses offered
4.	Copenhagen Business School (Copenhagen)	<ul style="list-style-type: none"> – 8 interest areas, containing 44 master programs in total – Including finance, management and economics
5.	HEC Paris (Paris)	<ul style="list-style-type: none"> – 11 master programs: Mgmt., Mgmt. & innovation; mgmt. & business law; mgmt. & public affairs; data science & business; international finance; managerial and financial economics; marketing; strategic management; accounting & financial management; sustainability and social innovation – further specializations within the programs – > 28 elective courses offered
6.	Kozminsky University (Warsaw)	<ul style="list-style-type: none"> – 4 master programs: management; digital marketing; finance & accounting; big data analysis – specialization courses and elective courses offered – number of elective courses: n/a

No.	School name (Location)	Program and course offer
7.	Rotterdam Business School (Rotterdam)	<ul style="list-style-type: none"> – 15 master programs: accounting & financial mgmt.; business information mgmt.; finance & investments; finance & investments advanced; global business & sustainability; HR mgmt.; international mgmt./CEMS; mgmt. of innovation; marketing mgmt.; master in mgmt.; research master in business and mgmt.; organizational change & consulting; strategic entrepreneurship; strategic mgmt.; supply chain mgmt. – number of elective courses offered: n/a
8.	Stockholm School of Business and Economics (Stockholm)	<ul style="list-style-type: none"> – 5 master programs: international mgmt.; business & mgmt.; finance; economics; accounting, valuation & financial mgmt. – 3 electives in mgmt.; 13 in finance; 5 in economics
9.	University of Mannheim (Mannheim)	<ul style="list-style-type: none"> – 6 specializations: Accounting & Taxation; Finance; Information Systems; Management; Marketing; Operations Management – 90 elective courses offered
10.	Wirtschaftsuniversität Wien (Vienna)	<ul style="list-style-type: none"> – 8 master programs: Economics; information systems; international mgmt.; marketing; quantitative finance; social-ecological economics and policy; strategy, innovation & mgmt. control; supply chain mgmt. – 22 elective courses for CEMS; 4 out of 11 areas of specialization in economics; 1 out of 2 specializations +13 electives in finance

Source: School homepages (www.novasbe.unl.pt; www.unibocconi.eu; www.clsbe.lisboa.ucp.pt; www.cbs.dk; www.hec.edu; www.kozmisky.edu.pl; www.rsm.nl; www.hhs.se; bwl.uni-mannheim.de; www.wu.ac.at)

APPENDIX 7 | Competitor benchmarking: international orientation

No.	School name (Location)	International Strategy	Share of foreign students	Exchange programs/ double degrees
1.	Nova SBE (Lisbon)	“To be a community dedicated to the development of talent and knowledge that impacts the world (...) to spread this footprint beyond Portugal , reaching Europe and the world (...) our efforts to become more and more international ” (Nova mission statement)	41 %	<ul style="list-style-type: none"> – CEMS – 17 double degree programs – (UCL-Louvain, Insper, EAESP-FGV, LUISS, EBS, Maastricht University, Warsaw School of Economics, Andes-Europe, Bocconi, NHH) – Exchange programs
2.	Bocconi University (Italy)	“...Bocconi seeks to address the research and education needs of the European and global economy, by favoring cultural progress, international exchange, and economic integration” (Bocconi mission statement)	14 %	<ul style="list-style-type: none"> – CEMS – China MIM program – 3 double degree programs: ESSEC, LSE, Science Po – Exchange programs
3.	Católica (Portugal)	“... We pursue our mission internationally”, “We aim to (...) be among the top 10 European Business Schools (...) be a valued partner for a variety of international firms (...) be recognized as a hub for pan-Atlantic business (Católica Strategy)	50 %	<ul style="list-style-type: none"> – 17 double degree programs: Aston Business School, BI Norwegian Business School, Bocconi, ESCP Europe, FGV Ebape, Kozminsky University, Queens Smith School of Business, WHU, Université Catholique de Louvain, Università degli studi di Napoli Federico II – Exchange programs
4.	Copenhagen Business School (Denmark)	“CBS is an international business university. (...) CBS aims to become a world-leading business university” (CBS mission and vision statement)	n/a	<ul style="list-style-type: none"> – CEMS – 5 double degree programs (Mannheim, UNC Charlotte, Smith School of Business, Bocconi) – Exchange programs

No.	School name (Location)	International Strategy	Share of foreign students	Exchange programs/ double degrees
5.	HEC (France)	“As a world business school, HEC Paris educates tomorrow’s global business leaders, who will evolve in a more and more global environment...” (Statement from HEC website”)	n/a	<ul style="list-style-type: none"> – CEMS – 11 double degree programs(MIT, Cambridge, FGV, Tsinghua University, TU München, Indian Institute of Management, Bocconi, Keio Business School, GSOM St. Petersburg, ESADE, St. Gallen, NUS Business School) – Exchange programs
6.	Kozminsky University (Warsaw)	“Internationalization: One of the most internationalized universities in Poland according to the "Perspektywy" Education Foundation ranking (...) Study programs in English on all levels (statement from the website)	50 %	<ul style="list-style-type: none"> – CEMS – 7 double degree programs (ESCP, KEDGE Business School, Católica, Hull University, Lancaster University, University of Porto, ESSCA) – Exchange programs
7.	Rotterdam Business School (Rotterdam)	“Rotterdam School of Management, Erasmus University is a force for positive change in the world. (...) RSM reaches an expansive international audience of future and current leaders” (RSM mission statement)	n/a	<ul style="list-style-type: none"> – CEMS – 3 double degree programs: Esade, St. Gallen, Bocconi – Exchange programs
8.	Stockholm School of Business and Economics (Stockholm)	“The SSE vision is to firmly establish itself as a member of the top tier of European business schools and to be recognized as a global benchmark for industry collaboration and for thought leadership in selected knowledge fields.” (SSE vision statement)	47 %	<ul style="list-style-type: none"> – CEMS – 4 double degree programs (Bocconi, St. Gallen, SciencePo) – Exchange programs

No.	School name (Location)	International Strategy	Share of foreign students	Exchange programs/ double degrees
9.	University of Mannheim (Mannheim)	“At our Business School, you will be studying with an international perspective from day one thanks to plenty of opportunities to spend time abroad, a large proportion of courses taught in English, and a bustling campus with students from all over the world.” (statement from website)	21 %	<ul style="list-style-type: none"> – 7 double degree programs (Bocconi, CBS, ESSEC, Chengchi University, Norwegian School of Economics, Queens University, University of South Carolina) – Exchange programs
10.	Wirtschafts- universität Wien (Vienna)	“WU sees itself as an international university, as an important hub for global exchange (...) open-mindedness and diversity were already among the university’s key values at WU’s founding...” (WU strategy statement)	27 % (2014)	<ul style="list-style-type: none"> – CEMS – 4 double degree programs (master in strategy, innovation & management control) (Bocconi, St. Petersburg University, Queen’s University, University of Technology Sydney) – Exchange programs

Source: School homepages (www.novasbe.unl.pt; www.unibocconi.eu; www.clsbe.lisboa.ucp.pt; www.cbs.dk; www.hec.edu; www.kozmisky.edu.pl; www.rsm.nl; www.hhs.se; bwl.uni-mannheim.de; www.wu.ac.at)